

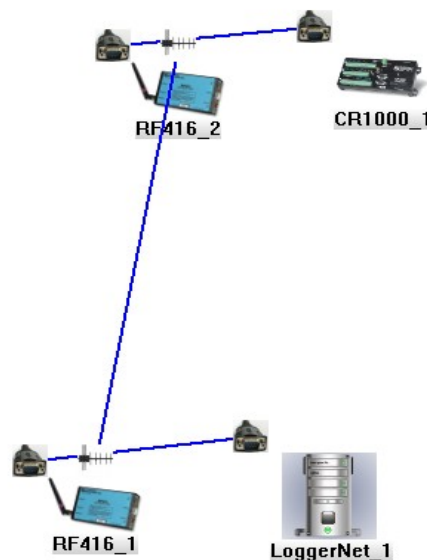
Instructions for Setting up Roofrad Communication System

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Connecting from LoggerNet PCs to DataLogger

Network Planner: This sub-program is used to map out the connections to other devices. LoggerNet will use this model for connecting to DataLoggers. The following are instructions on how to connect 1 PC to 1 CR-1000 data logger via RF416 radio modems. Below is an example of what this network looks like in Network Planner.



- 1) Open LoggerNet from desktop
- 2) Under **Tools** select **Network Planner**.
- 3) Using the *Hand Tool* in the horizontal tool bar near the top of the window, drag the devices to be used in the network onto the drawing canvas from the *Device Palette* on the left side of the window. For the basic setup, drag 1 CR1000, 1 LoggerNet server, and 1 RF416 for the CR1000 and LoggerNet.
- 4) Connecting devices: The *Link Tool* in the tool bar is used to model connections between devices. A green plus sign should appear as you drag the tool over the first device. Click and drag from there to the green plus sign on the second device.
 - i. LoggerNet icon to its RF416_1. When the prompt pops up asking for which COM port to use, select the one with "USB-to-Serial" in its name.
 - ii. Drag a line from CR1000 to RF416_2, and allow default settings.
 - iii. Drag a line from RF416_1 and RF416_2, allow default settings.
- 5) Configure each device: Click on each device icon in the canvas to configure it. On right side of window, the upper panel *Configure Devices* shows a list of devices with a check box next to each. The check will appear once the device is configured. The panel *Station Summary* at the lower right displays current configuration settings.
 - i. LoggerNet: click on LoggerNet icon in Drawing Canvas.
 - Under *Station Summary* scroll down and select **Configure LoggerNet Server**.
 - Edit *Model Prefix* to account name of PC (e.g. roofrad1 or roofrad2). Click *Connect*. Here the software is just connecting to its self.

- ii. RF416: Connect RS-232 cable from PC to each RF416 that will be used, click on connected RF416 icon in Drawing Canvas and repeat the following.
 - Under *Station Summary* scroll down and select **Program Settings for RF416_1**
 - For serial port select correct COM port.
 - On the radio itself, push the green button labeled *Program* between the RS-232 port and antenna. The red LED should be on continuously (not flashing).
 - Click *Connect*. A window will pop up for username and password, select *bypass*. The software will communicate with the radio. If it does not work the first time, push the green button and try again.
 - Save configuration as RF416-1-20110504 in C:\Campbellsci\NetworkPlanner\.
 - After a successful connection, a check should appear in box next to *Program settings for RF416_1...*
 - Disconnect RF416_1 from RS-232, repeat for RF416-2.
- ii. CR1000: Connect PC to CR1000 via RS-232 cable. Click on each CR1000 icon that will be used.
 - Under *Station Summary* scroll down and select **Program Settings for CR1000_1**
 - For serial port select correct COM port.
 - Click *Connect*. A window will pop up for username and password, select *bypass*.
 - Save the configuration as the default name in C:\Campbellsci\NetworkPlanner\.
 - After a successful connection, a check should appear in box next to *Program settings for CR1000_1...*
 - Disconnect CR-1000 from RS232 port.
- 6) Save Network Planner file by clicking Save icon at top tool bar, in C:\Campbellsci\NetworkPlanner\.
- An initial test setup is saved as *atLBL-20110504.nwp*
- Close Network Planner
- 7) Connect PC to RF416_1 via RS-232.

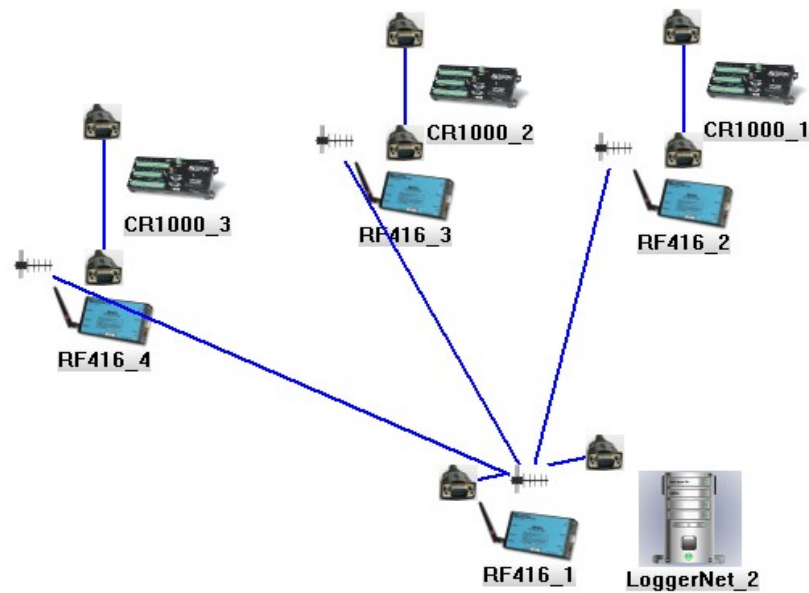
Connect: Under **Main** select **Connect** to connect to your favorite data logger!

Connecting Baler PC to LoggerNet PCs

- 1) Establish an internet connection via Ethernet cable for each PC (deactivate wireless).
- 2) Activate the NO-IP service by double-clicking *DUC* icon. This software will check the IP every 5 seconds and report it to a server. roofrad1 (the netbook) is called **roofrad1.no-ip.org**, and roofrad2 (the dell PC) is called **roofrad2.no-ip.org**.
- 3) Make sure that LoggerNet for both roofrad1 and roofrad2 have remote connectivity activated. They are set as such at LBL, but in case it changed..
 - i. At the main LoggerNet window, hit Alt key to see window menu items (File, View, Tools, Launch, Help)
 - ii. Go to Tools >> Options >> check box for *Allow Remote Connections*
- 4) On third PC, UAV-DATA, start Baler from desktop, enter the host name for roofrad1. Start Baler again, enter host name for roofrad2. Enable baling for both.

Notes

- The network system has not been tested with multiple data logger radios for one PC radio. Assume that the above steps for *Connecting LoggerNet PCs to DataLogger* are valid and that the Network Planner drawing canvas might look like the below figure for each LoggerNet PC in the field.



- For some rules on radio connections, go to LoggerNet Help, and search “radio” and a hit for “RF4XX” should come up. Third paragraph down talks about what is depicted above.